

REMARKS

This amendment is offered in response to the Office Action of February 23, 2006.

The Office Action rejected Claims 1, 5 and 14 under 35 U.S.C. §102(b) as being anticipated by the Kimura reference (U.S. Patent No. 6,386,672). However, it is respectfully submitted that the Kimura reference does not disclose or suggest “recording apparatus comprising … on the outer side of the head holder … a flexible insulating band; a plurality of conductive wires; and a driver element for actuating the printing head.” (emphasis added) as recited in Claim 1 and newly-amended Claim 2 (upon which Claim 14 ultimately depends). However, referring to Figures 1 and 4 of the Kimura reference in view of col. 3, lines 36-48 and col. 4, lines 20-30, it is apparent that the flexible cable 13 corresponding to the flexible wiring board of the present invention and the semiconductor integrated circuit 20 corresponding to the driver element of the present invention are not on the outer side, but rather on the inner side of the holder 11 corresponding to the head holder of the presently claimed invention.

Furthermore, with respect to newly-amended Claim 14 (wherein the dependency has been amended), it is respectfully submitted that Figure 4 of the Kimura does not disclose “a portion of the surface of the heatsink to be opposed to the head holder … is not in contact with the head holder” and the “portion of the surface of the heatsink comprises a first area corresponding to the drive element and a second area surrounding and adjacent to the first area”. Rather, in Figure 4 of the Kimura reference, an area of the surface of the heat sink or fixed base 18 which surface is opposed to the holder 11, which area corresponding to the first area defined in Claim 14, does contact the holder 11.

It is therefore respectfully submitted that Claim 1 and all of the claims dependent thereon are patentable over the Kimura reference.

The Office Action rejected Claim 2 over the Kimura reference in view of the Orlicki reference (U.S. Patent No. 5,818,499). The Office Action apparently bases this rejection on the combination of Figure 11 in the Kimura reference and Figure 8 in the Orlicki reference. However, Figure 8 in the Orlicki reference discloses a technique where “the LED array 34 is fabricated on a relatively thick block 40 of copper which acts as an efficient heat sink structure” (column 4, line 65 to column 5, line 1), “The LEDs are mounted on the heat sink 40 so that the aperture cathodes 41 lie in a common plane” (column 5, lines 9-11), and “polyimide flex circuit 42 (see FIG. 8) is provided with a rectangular aperture to provide clearance for the LED array” (column 5, lines 16-18). That is, in the presently claimed invention, a driver element that may be an IC chip as stated in the description part of the specification is disposed on a flexible insulating band, but in the Orlicki reference, the member disposed on the flexible circuit corresponding to the flexible wiring board is the LED array that is a driven element driven by a driver, and not a driver element for driving a device. Further, the LED array is fabricated or disposed on the heat sink 40, i.e., the relatively thick copper block, in contrast to the present invention where the driver element is disposed on the flexible insulating band partially constituting the flexible wiring board. Still further, neither cited reference discloses the element defined in the original claim 2 (as well as in the original claim 1) that on the outer side of the head holder a flexible insulating band, a plurality of conductive wires and a driver element for actuating the printing head are disposed. Hence, the rejection of Claim 2 over the cited references is overcome.

The Office Action rejected Claims 3 and 12 under 35 U.S.C. §103(a) as being obvious over the Kimura reference as modified by the Orlicki reference and further in view of the

Yamada reference (U.S. Patent Publication 2002/0205567). Similarly, the Office Action rejected Claim 11 under 35 U.S.C. §103(a) as being obvious over the Kimura reference in view of the Yamada reference. The Office Action states that the Yamada reference discloses “the heat sink is spaced from the outer surface of the head holder with a first clearance therebetween (Figure 3), for the purpose of allowing space for the flexible wiring board and for heat to properly dissipate. However, it is respectfully submitted that the first clearance or the space for the flexible wiring board is not at all related to the subject matter of the presently pending claims, and that this rejection is not supported.

Additionally, the Office Action states that “At the time the invention was made it would have been obvious to a person of ordinary skill in the art to incorporate the teaching of … a cover which protects the flexible wiring board … by pressing force of the elastic member as taught by Yamada et al into the device of Kimura et al.” From this, it appears that the Office Action considers “body frame 1” and “lid plate 54” in Figure 10 of the Yamada reference to correspond to the “cover” and “heatsink” of the present application. However, Claim 1 of the present application recites that the “heatsink is disposed between the flexible wiring board and the head holder”. In contrast, in Figure 10 of the Yamada reference, the lid plate 54 that is apparently construed as a heatsink is not disposed between flexible flat cable 40 (or flexible wiring board) and the body frame 1 (or head holder).

It is therefore respectfully submitted that these rejections are overcome.

The Office Action rejected Claim 10 under 35 U.S.C. §103(a) as being obvious over the Kimura reference in view of the Sattler reference (U.S. Patent No. 6,095,701). As Claim 1 is patentable over the Kimura reference for reasons described above, and as the Sattler reference

does nothing to overcome the deficiencies of the Kimura reference with respect to Claim 1, it is respectfully submitted that Claim 10 is allowable over these references.

The Office Action rejected Claim 11 under 35 U.S.C. §103(a) as being obvious over the Kimura reference in view of the Yamada reference. This rejection is addressed above along with the rejection of Claims 3 and 12.

Claims 4 and 6 have been rewritten in independent form, thereby placing Claims 4, 6-9 and 13, to which the Examiner objected, in immediate condition for allowance.

It is therefore respectfully submitted that all of the rejections have been overcome.

The Examiner is respectfully requested to pass this application to early issue.

Respectfully submitted,



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